INTERNATIONAL MONETARY FUND

DOMINICA

Debt Sustainability Analysis

Prepared by the Staff of the International Monetary Fund

In consultation with the World Bank Staff

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Dominica's debt outlook has deteriorated slightly since the previous debt sustainability analysis (DSA).[1] In the baseline scenario, Dominica would reach the ECCB's 60 percent debt-to-GDP ratio target in 2017, three years before the target date of 2020. However, a large potential loan to build a tourist resort would delay achieving the target until after 2020. Relative to the thresholds based on Dominica's Country Policy and Institutional Assessment (CPIA) rating of "strong", the threshold on the PV of debt-to-GDP ratio is exceeded during 2010–12. Dominica is considered as having a moderate risk of debt distress. However, some of the simulated shocks and potential additional borrowing plans would lead to breaches of the debt burden thresholds.[2]

I. Context

1. **The Dominican authorities have pursued sound macroeconomic and structural policies in recent years.** They successfully implemented a reform agenda supported by a Stand-by Arrangement (2001–03) and a PRGF Arrangement (2004–06). The strong fiscal position has allowed a significant reduction in the debt to GDP ratio and created fiscal space to respond to the 2009 global downturn.

2. **Dominica's debt prospects have improved considerably in recent years.** The public debt-to-GDP ratio has declined from 130 percent in 2003 to 84 percent in 2009. The major factors behind this improvement are the cooperative debt restructuring that took place in 2004–05 and the prudent fiscal policy maintained by the authorities since then, supported by the strong performance of the VAT introduced in 2006.

[1] See IMF Country Report No. 09/293, Dominica—Request for Disbursement under the Rapid-Access Component of the Exogenous Shocks Facility, June 26, 2009.

[2] For a description of the exercise see Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries (IMF Publication, January 25, 2010 http://www.imf.org/external/pp/longres.aspx?id=4419)

3. **The global economic downturn has resulted in lower inflows related to tourist arrivals, FDI and remittances**. However, in contrast to other countries in the Eastern Caribbean Currency Union (ECCU), real GDP has declined only modestly reflecting in part the decision of the government to maintain public capital spending in 2009 at the high post-hurricane level in 2008.

4. **Debt management capacity needs to be strengthened and a medium-term debt management strategy implemented.** At the request of the authorities, an MCM mission visited Dominica during October 2009, and provided technical assistance on debt management. The mission recommended pursuing debt sustainability vigilantly as substantial risks remain around the current downward trajectory of debt ratios. It also recommended strengthening debt management capacity and institutional arrangements, and implementing a medium-term debt management strategy. This strategy should build on the current approach that focuses on minimizing the cost of financing, including concessional debt, and contain a plan for managing financial risk and accessing grant financing. The mission also recommended expanding the investor base cautiously via the Regional Government Securities Market (RGSM).

5. **Dominica is rated as a strong performer according to the World Bank's CPIA ratings.** The CPIA rates countries against a set of 16 criteria grouped in four clusters: (i) economic management; (ii) structural policies; (iii) policies for social inclusion and equity; and (iv) public sector management and institutions. In 2008, Dominica's CPIA three year average, 3.84, implies the country is categorized as a "strong performer".

Debt Burden Thresholds under the Debt Sustainability Framework
(Applying to external public debt)

	PV of debt in percent of			Debt Service in percent of GDP	
	Exports	GDP	Revenue	Exports	Revenue
Strong policy	200	50	300	25	35

Source: SM/08/317. Staff Guidance on the Application of the Joint Fund- Bank Debt Sustainability Framework for Low Income Countries.

II. UNDERLYING ASSUMPTIONS

6. **The baseline scenario is based upon the government's financing needs under current fiscal policies.** The main assumptions of the DSA are in Box 1.

Dominica: Key Assumptions and Indicators in the DSA, 2008–29
(In percent of GDP, unless otherwise indicated)

	Prelim.	Projections			
	2008	2009	2019	2025	2029
Total revenue and grants *	55.1	55.8	50.1	50.0	49.9
Primary (noninterest) expenditure *	51.8	53.3	47.2	47.0	46.7
Primary balance (including grants) *	-3.4	-2.5	-2.9	-3.0	-3.1
Public debt *	84.9	83.7	53.1	34.8	23.1
External current account	-31.9	-27.7	-21.3	-22.1	-22.4
Exports of goods and services	39.8	35.5	37.5	37.1	36.9
Real GDP growth (in percent)	1.4	0.5	3.0	3.0	3.0
Inflation rate (average; in percent)	1.6	0.9	1.5	1.5	1.5

Sources: Ministry of Finance; and Fund staff estimates and projections.
* Refer to the fiscal year (July-June) that begins in the year shown.

Box 1. Baseline Macroeconomic Assumptions (2010–29)

- Real **GDP growth** in the medium term is projected to reach 3 percent, above the average of 0.9 percent in the past ten years, but below the average of 3.4 percent excluding the crisis years of 2001 and 2002. The projection incorporates the effects of authorities' continued efforts to advance their reform agenda and to foster private-sector led growth. **Inflation** is expected to remain at about 1.5 percent from 2011 onwards.

- The **primary surplus** (including grants), which averaged 4.8 percent of GDP in FY2006/07–FY2008/09, is expected to be 3 percent in FY2009/10. The primary surplus is assumed to remain at around 1.3 percent of GDP in FY2010/11–FY2012/13, as a result of the infrastructure spending associated with the loan from China. Afterwards, the level of the primary surplus is assumed to remain at a similar level, around 3 percent of GDP, and the associated overall fiscal deficit is around 1 percent of GDP.

- **Grants** peaked in FY2008/09 at 11.6 percent of GDP because of post-hurricane reconstruction aid, but a slight decline is expected in FY2009–10. Projected grant financing at around 7.2 percent of GDP over the medium-term implies a decline from recent high levels but would still be higher than the historical average of 6.3 percent during FY2000/01–FY2006/07. This reflects in part recent diversification of trade and economic linkages, especially with China and Venezuela (see SM/08/242, Box 5).

- **Concessional lending** represents most of the external debt, primarily from the Caribbean Development Bank (CBD) and the International Development Association (IDA). Other sources of concessional lending are China and Venezuela.

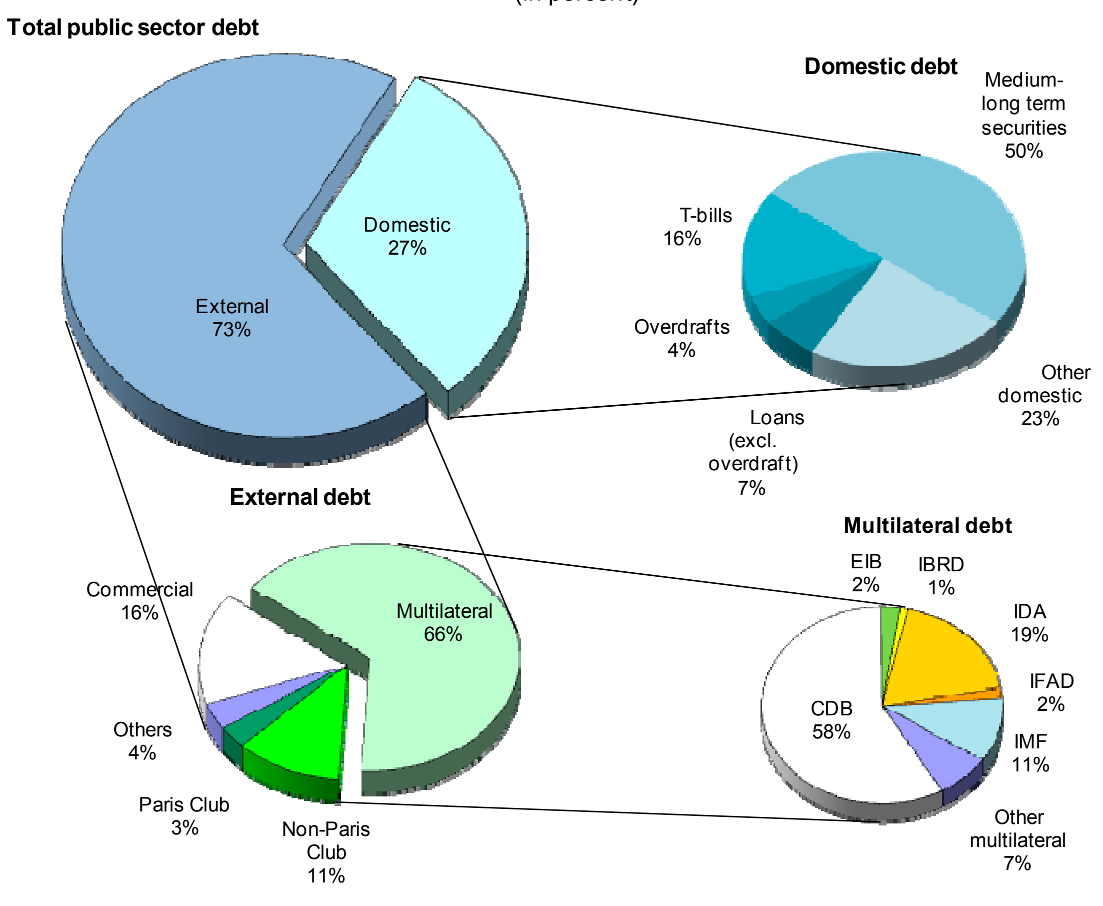
- **After** peaking at 32 percent of GDP in 2008, the **external current account** deficit is expected to stay at a level close to 23–25 percent of GDP in 2010–12 due to imports related to infrastructure spending, and then stabilize at around 20–21 percent afterwards. **Exports** are expected to stabilize after an 11 percent reduction in 2009 and a somewhat slow recovery in 2010–14. **FDI** flows are expected to finance around half of the current account deficit from 2013 onwards.

7. **The current baseline scenario incorporates a US$40 million concessional loan from the Export-Import Bank China.** The loan will finance education and infrastructure projects leading to a reduction of the primary surplus to around 1.3 percent of GDP in the next three fiscal years. It is assumed that the primary balance remains at around 3 percent of GDP thereafter. The medium-term growth impact of the loan is uncertain as most materials would be imported and the investment in education would likely take some time to yield a return.

III. Evaluation of Public Sector Debt Sustainability

8. **Dominica's public debt has decreased considerably.** From a peak at 130 percent of GDP in 2003, the public debt-to-GDP ratio decreased to 84 percent in 2009. External debt accounts for three quarters of total debt. The central government accounts for 94 percent of public debt. Among external creditors, multilateral lending represents 66 percent of the total, followed by lending from commercial banks, 16 percent, and bilateral sources, 15 percent (Table 1).

Dominica: Public Sector Debt, end-June 2009
(In percent)



Source: Dominican authorities.

The baseline scenario

9. **The debt sustainability outlook has deteriorated slightly relative to the last DSA analysis, reflecting in part new borrowing discussed below**. In the baseline scenario, Dominica will reach the ECCU target of 60 percent debt-to-GDP ratio by 2017, one year later than in the previous DSA but still three years before the 2020 target date. It is projected that the ratio of NPV of the public debt-to-GDP will fall from 72 percent of GDP in 2008 to 25 percent in 2029. On the other hand, the ratio of the NPV of external debt-to-GDP is expected to fall from 46 percent in 2008 to 19 percent in 2029 (Table 4).

10. **The baseline projection incorporates a US$40 million loan from China for projects in education and infrastructure.** About US$24 million (7 percent of GDP) of the total would represent new expenditure and external financing not previously incorporated in the fiscal projections.[6] This expenditure and the existing financing pipeline from other creditors will imply a weakening in the primary surplus in the period FY2010/11-FY2012/13.

11. **The baseline scenario does not include a proposed additional US$60 million loan from China, equivalent to 16 percent of GDP.** This additional borrowing to build a resort project constitutes the main risk to the debt sustainability projections, even when its potential effects could be partially limited by the revenue stream that may be obtained from the project. However, those revenue flows involve a high degree of uncertainty.

12. **This loan would need to generate substantial economic growth to be debt neutral.** Although the terms of the possible loan are not clear, we assume for the purposes of analysis that the loan will be disbursed during 2010–12, with two percent interest rate, five years grace, and 20 years maturity. In that case, the debt to-GDP ratio in 2012 once the loan is fully disbursed would be 15 percentage points higher than under the baseline. As a result, achieving the same debt-to-GDP ratio in 2020 as in the baseline scenario would require GDP to grow 2.8 percentage points faster each year during 2013–20.

13. **The risks surrounding the baseline debt projections are:**

- **Additional borrowing.** The proposed US$60 million loan for the construction of a tourism resort could have an adverse impact on the debt trajectory;
- **GDP growth.** A slow global recovery and the potential effects of the rebalancing of global demand could lower demand for tourism services; there is a risk of further external shocks; and the growth impact of the reform agenda may be lower than projected;
- **Potential contingent liabilities** associated with the collapse of the CL Financial Group;

[3] The terms of the loans are 2 percent interest, 5 years grace, and 20 years maturity, which imply a grant element of 36 percent.

- **Exogenous shocks** as commodity price shocks, natural disasters, reductions in grant inflows and volatility in the demand for tourism services could both slow growth and undermine the fiscal position, preventing further debt reduction; and

- **Changes in access to concessional lending.** The baseline scenario assumes that multilateral borrowing is available on concessional terms, which is in line with the current Caribbean Development Bank lending policies.

Alternative scenarios and bound tests

14. **The debt outlook generally worsens under alternative scenarios.** If there is a permanently lower rate of growth or if GDP growth and the primary balance stay at historical averages, trajectories for the debt-to-GDP ratio are higher than in the baseline scenario. On the other hand, if the primary balance remains unchanged at the 2009 level, the trajectory for the debt-to-GDP ratio would be very similar to the one in the baseline (Table 3).

15. **A possible additional US$60 million loan from China would worsen the debt outlook.** The additional loan that may be disbursed in 2010–2012 would imply that the 60 percent target level for the debt-to-GDP ratio would not be reached by 2020 without a strong growth impact. On the other hand, taking into account a considerable positive impact of the resort project on GDP growth,[4] the 60 percent target level would be reached in 2020.[5]

16. **According to standard bound tests, shocks to GDP growth may have the greatest impact on the debt outlook.** More specifically, a reduction of GDP growth by one standard deviation from its historical average during 2010–11 would dramatically worsen the debt projections. In this scenario, the PV of debt-to-GDP ratio would be 70 percent in 2029 compared to 25 percent under the baseline scenario. Among bound tests, this shock also produces the worst results for the PV of debt-to-revenue ratio and the debt service-to-revenue ratio (Table 3).

IV. External Debt Sustainability

17. **In the baseline scenario, one debt burden threshold would be breached temporarily.** Between 2010 and 2012, the PV of the debt-to-GDP ratio is just below the 50 percent threshold. However, all other ratios—PV of debt to exports and revenue and debt service to exports and revenue—will remain well below their corresponding thresholds (Table 5a)

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[4] The rate of GDP growth is projected to increase by 0.3 percentage points during the construction period, 2010–2012, and afterwards GDP growth would be boosted by one percentage point for five years.

[5] Historically, the link between public investment and growth in the ECCU has been weak; see Shaun Roache, "Public Investment and Growth in the Eastern Caribbean," IMF Working Paper 07/124.

18. **A second loan for US$60 million would worsen the debt outlook.** The PV of debt-to-GDP ratio would be over its threshold of 50 percent between 2010 and 2014 (Figure 2). However, the other four thresholds would not be breached.

19. **The risks depicted by the bound tests are concentrated on the PV of debt-to-GDP ratio.** For most bound tests performed, the PV of debt-to-GDP crosses the 50 percent thresholds. However, all other ratios stay under their corresponding thresholds. In general, standard bound tests show that a combination of shocks to real GDP growth and non debt creating inflows has the largest impact on the external debt outlook (Table 5b).

V. Conclusion

20. **Dominica's debt ratios have fallen sharply since 2003.** The decline reflects the cooperative debt restructuring in 2004–05 and the prudent fiscal policies subsequently maintained by the authorities.

21. **The baseline scenario shows a slight deterioration in the debt outlook compared to the previous debt sustainability analysis.** This is the result of the global downturn and a new US$40 million loan. However, the debt-to-GDP ratio will reach the ECCU 60 percent target in 2017, three years before the target date.

22. **Large additional borrowing would delay achieving the ECCB target.** The main risk associated to the baseline scenario is a potential additional loan for US$60 million to build a tourist resort. This additional borrowing implies that the ECCU target would not be reached by 2020. Also, the additional borrowing would imply that Dominica could be considered at moderate risk of debt distress, as one of the five thresholds of the PV of external debt-to-GDP ratio, would be temporarily exceeded in the period 2010–2014.

Table 1. Dominica: Public Sector Debt, 2008/09

(in millions EC dollars)

		Percent of	
	Stock	Total Debt	GDP
Nonfinancial public sector	833.0	100.0	84.3
Central government	783.8	94.1	79.3
Public enterprises	49.2	5.9	5.0
External	577.9	69.4	58.5
Central government	577.9	69.4	58.5
Multilateral	378.8	45.5	38.3
CDB	220.8	26.5	22.3
EIB	9.2	1.1	0.9
IBRD	3.9	0.5	0.4
IDA	70.9	8.5	7.2
IFAD	6.0	0.7	0.6
IMF	39.8	4.8	4.0
Other multilateral	28.2	3.4	2.9
Official bilateral	85.3	10.2	8.6
Paris Club	18.6	2.2	1.9
France	18.6	2.2	1.9
Non-Paris Club	66.8	8.0	6.8
China	24.9	3.0	2.5
Bahamas	4.1	0.5	0.4
Barbados	13.5	1.6	1.4
Belize	2.7	0.3	0.3
Grenada	2.7	0.3	0.3
Trinidad and Tobago	10.0	1.2	1.0
Kuwait	8.9	1.1	0.9
Commercial, total 1/	91.9	11.0	9.3
Others	21.8	2.6	2.2
Domestic	255.1	30.6	25.8
By instruments			
Loans (excl. overdraft)	17.0	2.0	1.7
Overdrafts	11.3	1.4	1.1
T-bills	40.8	4.9	4.1
Medium-long term securities	126.5	15.2	12.8
Other domestic	59.5	7.1	6.0
Memorandum items:			
Central government debt	205.9	24.7	20.8
Public enterprise debt	49.2	5.9	5.0
Nominal GDP (Fiscal year)	988.2		

Sources: Dominica authorities; and Fund staff estimates.

1/ Includes private and monetary authorities.

2/ Includes debt with Dominica Social Security.

Table 2. Dominica: Public Sector Debt Sustainability Framework, Baseline Scenario, 2006-2029 1/
(In percent of GDP, unless otherwise indicated)

	Actual					Estimat	Projections								
	2006	2007	2008	Historical Average 2/	Standard Deviation 2/	2009	2010	2011	2012	2013	2014	2009-14 Average	2019	2029	2015-29 Average
Public sector debt 3/	95.7	90.9	84.3			83.1	82.7	80.5	77.6	73.6	69.8		51.6	19.3	
o/w foreign-currency denominated	67.7	63.6	58.5			59.5	59.6	58.7	57.0	53.7	48.9		32.4	13.4	
Change in public sector debt	-4.7	-4.7	-6.6			-1.2	-0.3	-2.2	-2.9	-3.9	-3.8		-3.6	-3.2	
Identified debt-creating flows	-9.9	-8.4	-4.5			-1.0	-0.7	-2.2	-2.9	-3.9	-3.8		-3.6	-3.2	
Primary deficit	-6.2	-4.9	-3.4	0.5	6.1	-2.5	-1.0	-1.1	-1.8	-2.8	-2.9	-2.0	-3.2	-3.3	-3.2
Revenue and grants	49.1	53.6	54.7			55.4	52.6	51.2	50.9	49.8	49.8		49.6	49.4	
of which: grants	7.5	11.3	11.5			11.2	8.2	7.0	6.7	5.6	5.5		5.5	5.5	
Primary (noninterest) expenditure	43.0	48.8	51.4			52.9	51.7	50.2	49.1	47.0	46.8		46.5	46.2	
Automatic debt dynamics	-3.7	-3.6	-1.1			1.5	0.3	-1.2	-1.1	-1.1	-0.9		-0.4	0.1	
Contribution from interest rate/growth differential	-3.8	-2.6	-1.0			1.5	0.6	-0.6	-1.1	-1.3	-1.1		-0.6	0.0	
of which: contribution from average real interest rate	-0.3	0.0	0.3			1.9	2.2	1.6	1.2	0.9	1.0		1.0	0.7	
of which: contribution from real GDP growth	-3.5	-2.7	-1.3			-0.5	-1.6	-2.2	-2.3	-2.3	-2.1		-1.6	-0.7	
Contribution from real exchange rate depreciation	0.1	-0.9	-0.1			0.1	-0.3	-0.5	0.0	0.2	0.2		0.2	0.1	
Residual, including asset changes	5.1	3.7	-2.2			-0.3	0.3	0.0	0.0	0.0	0.0		0.0	0.0	
Other Sustainability Indicators															
PV of public sector debt	81.7	77.4	72.2			70.5	71.8	70.0	67.7	64.9	61.5		47.5	24.9	
o/w foreign-currency denominated	53.6	50.1	46.4			46.9	48.6	48.3	47.2	44.9	40.6		28.3	19.0	
o/w external	53.6	50.1	46.4			46.9	48.6	48.3	47.2	44.9	40.6		28.3	19.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 4/	0.2	1.5	2.2			5.2	4.5	4.5	3.5	2.2	3.3		1.2	-0.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	166.1	144.2	131.9			127.1	136.4	136.6	132.8	130.3	123.7		95.6	50.3	
PV of public sector debt-to-revenue ratio (in percent)	196.1	182.8	167.0			159.3	161.5	158.2	152.9	146.6	139.0		107.5	56.6	
o/w external 5/	128.8	118.3	107.3			106.0	109.4	109.1	106.5	101.5	91.7		64.0	43.2	
Debt service-to-revenue and grants ratio (in percent) 6/	13.0	12.0	10.1			13.8	10.4	10.9	10.4	10.1	12.5		8.8	4.8	
Debt service-to-revenue ratio (in percent) 6/	15.4	15.2	12.8			17.3	12.3	12.7	11.9	11.3	14.0		9.9	5.3	
Primary deficit that stabilizes the debt-to-GDP ratio	-1.4	-0.2	3.3			-1.3	-0.6	1.2	1.1	1.1	0.9		0.4	-0.1	
Average nominal interest rate on forex debt (in percent)	2.5	2.1	2.1	3.4	1.3	2.1	3.0	2.3	2.3	2.3	2.3	2.4	2.3	4.0	2.7
Average nominal interest rate on domestic debt (in percent)	3.7	5.8	3.4	4.3	1.3	5.8	3.9	4.0	5.0	5.3	6.0	5.0	6.5	7.0	6.6
Real exchange rate depreciation (in percent, + indicates depreciation)	0.2	-1.4	-0.1	-0.5	0.8	0.1	…	…	…	…	…	...	…	…	...
Inflation rate (GDP deflator, in percent)	3.1	4.2	2.3	2.5	1.2	0.8	1.0	1.5	1.5	1.5	1.5	1.3	1.5	1.5	1.5
US Inflation rate (GDP deflator, in percent)	3.2	2.7	2.2	2.4	0.6	0.9	0.4	0.6	1.5	1.9	2.0	1.2	2.0	2.0	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	…	…	30.3	29.2	28.2	29.0	30.9	30.9	29.7	30.9	30.9	...

Sources: Dominican authorities; and Fund staff estimates and projections.

1/ Figures shown for a given calendar year relate to the fiscal year beginning on July 1 of that year.
2/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
3/ Nonfinancial public sector.
4/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.
5/ Revenues excluding grants.
6/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

Table 3. Dominica: Sensitivity Analysis for Key Indicators of Public Debt 2009-2029
(In percent)

	Projections							
	2009	2010	2011	2012	2013	2014	**2019**	2029
PV of Debt-to-GDP Ratio								
Baseline	70.5	71.8	70.0	67.7	64.9	61.5	**47.5**	24.9
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	70.5	73.6	74.2	75.0	76.1	76.7	**82.8**	99.7
A2. Primary balance is unchanged from 2009	70.5	70.7	67.9	65.0	62.5	59.5	**47.8**	30.2
A3. Permanently lower GDP growth 1/	70.5	72.5	71.5	70.1	68.5	66.5	**61.7**	70.3
A4. Baseline with US$60 million loan from China	70.5	75.6	77.5	78.6	75.8	72.4	**57.6**	32.8
A5. Baseline with US$60 million loan from China and growth impact	70.5	75.4	77.0	77.9	74.3	70.3	**53.7**	29.2
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-201	70.5	75.9	80.4	80.7	80.6	79.7	**78.1**	76.6
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	70.5	77.4	81.2	78.8	76.0	72.6	**57.7**	32.9
B3. Combination of B1-B2 using one half standard deviation shocks	70.5	76.9	80.9	80.3	79.2	77.4	**71.1**	61.3
B4. One-time 30 percent real depreciation in 2010	70.5	92.9	90.3	87.4	84.3	80.3	**64.9**	42.5
B5. 10 percent of GDP increase in other debt-creating flows in 2010	70.5	79.1	77.3	74.9	72.1	68.8	**54.1**	30.0
PV of Debt-to-Revenue Ratio 2/								
Baseline	127.1	136.4	136.6	132.8	130.3	123.7	**95.6**	50.3
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	127.1	139.6	144.3	146.3	151.6	152.6	**163.1**	191.7
A2. Primary balance is unchanged from 2009	127.1	134.3	132.5	127.7	125.5	119.6	**96.3**	61.1
A3. Permanently lower GDP growth 1/	127.1	137.5	139.3	137.4	137.2	133.2	**123.3**	140.2
A4. Baseline with US$60 million loan from China	127.1	143.7	151.2	154.3	152.1	145.5	**115.9**	66.3
A5. Baseline with US$60 million loan from China and growth impact	127.1	143.3	150.4	153.1	149.5	141.6	**108.8**	59.3
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-201	127.1	143.4	155.1	156.7	160.1	158.7	**155.7**	153.4
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	127.1	147.0	158.4	154.7	152.6	145.9	**116.2**	66.6
B3. Combination of B1-B2 using one half standard deviation shocks	127.1	145.5	156.7	156.4	157.9	154.6	**142.2**	123.2
B4. One-time 30 percent real depreciation in 2010	127.1	176.5	176.3	171.6	169.3	161.4	**130.7**	86.0
B5. 10 percent of GDP increase in other debt-creating flows in 2010	127.1	150.3	150.8	147.1	144.8	138.2	**108.9**	60.8
Debt Service-to-Revenue Ratio 2/								
Baseline	13.8	10.4	10.9	10.4	10.1	12.5	**8.8**	4.8
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	13.8	10.5	11.3	10.9	10.9	13.8	**12.5**	15.6
A2. Primary balance is unchanged from 2009	13.8	10.4	10.9	10.3	9.9	12.3	**8.5**	5.2
A3. Permanently lower GDP growth 1/	13.8	10.5	11.1	10.6	10.3	12.9	**10.1**	10.2
A4. Baseline with US$60 million loan from China	13.8	10.4	11.1	10.7	10.6	13.0	**10.8**	6.8
A5. Baseline with US$60 million loan from China and growth impact	13.8	10.4	11.1	10.7	10.4	12.7	**10.2**	6.2
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-201	13.8	10.8	11.8	11.4	11.2	13.9	**12.0**	12.7
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	13.8	10.4	11.2	10.9	10.6	13.0	**10.8**	6.8
B3. Combination of B1-B2 using one half standard deviation shocks	13.8	10.6	11.7	11.2	11.0	13.6	**11.6**	10.7
B4. One-time 30 percent real depreciation in 2010	13.8	12.1	14.5	13.6	13.3	16.7	**12.6**	9.1
B5. 10 percent of GDP increase in other debt-creating flows in 2010	13.8	10.4	11.3	10.7	10.4	12.8	**10.1**	6.1

Sources: Country authorities; and Fund staff estimates and projections.
1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.
2/ Revenues are defined inclusive of grants.

Table 4. Dominica: External Debt Sustainability Framework, Baseline Scenario, 2006-2029 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 2/	Standard Deviation 2/	Projections									
	2006	2007	2008			2009	2010	2011	2012	2013	2014	2009-2014 Average	2019	2029	2015-2029 Average
External debt (nominal) 3/	**67.7**	**63.6**	**58.5**			**59.5**	**59.6**	**58.7**	**57.0**	**53.7**	**48.9**		**32.4**	**13.4**	
o/w public and publicly guaranteed (PPG)	67.7	63.6	58.5			59.5	59.6	58.7	57.0	53.7	48.9		32.4	13.4	
Change in external debt	-1.2	-4.1	-5.1			1.0	0.1	-0.8	-1.7	-3.4	-4.8		-3.0	-1.1	
Identified net debt-creating flows	2.9	4.6	12.9			18.9	14.3	10.5	9.2	8.3	6.8		8.0	10.0	
Non-interest current account deficit	**13.6**	**22.9**	**30.3**	**19.6**	**5.2**	**26.3**	**23.2**	**21.2**	**21.0**	**20.8**	**19.6**		**20.3**	**21.6**	20.7
Deficit in balance of goods and services	16.5	25.5	35.0			29.7	26.9	25.6	25.4	25.3	24.1		23.5	22.7	
Exports	43.9	41.9	39.5			35.2	35.9	36.9	37.1	37.3	37.3		37.1	36.6	
Imports	60.4	67.4	74.5			65.0	62.8	62.5	62.5	62.5	61.4		60.6	59.2	
Net current transfers (negative = inflow)	-5.9	-5.8	-8.0	-6.0	1.0	-7.4	-7.4	-7.8	-7.8	-7.8	-7.8		-6.5	-4.2	-5.8
o/w official	-0.1	0.1	0.0			-1.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other current account flows (negative = net inflow)	3.0	3.2	3.3			3.9	3.7	3.3	3.3	3.3	3.3		3.3	3.1	
Net FDI (negative = inflow)	**-7.9**	**-15.1**	**-16.4**	**-8.7**	**4.7**	**-7.8**	**-9.0**	**-9.6**	**-10.5**	**-11.3**	**-11.7**		**-11.6**	**-11.5**	-11.6
Endogenous debt dynamics 4/	**-2.8**	**-3.2**	**-1.0**			**0.4**	**0.1**	**-1.1**	**-1.2**	**-1.2**	**-1.2**		**-0.8**	**-0.1**	
Contribution from nominal interest rate	1.6	1.3	1.3			1.2	1.7	1.3	1.3	1.3	1.2		0.8	0.6	
Contribution from real GDP growth	-2.3	-1.8	-0.9			-0.3	-1.1	-1.6	-1.7	-1.6	-1.5		-1.0	-0.4	
Contribution from price and exchange rate changes	-2.0	-2.7	-1.4			-0.5	-0.6	-0.9	-0.9	-0.8	-0.8		-0.5	-0.2	
Residual (3-4) 5/	**-4.1**	**-8.7**	**-18.1**			**-17.9**	**-14.2**	**-11.3**	**-10.9**	**-11.7**	**-11.5**		**-10.9**	**-11.1**	
o/w exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 6/	...	...	46.4			46.9	48.6	48.3	47.2	44.9	40.6		28.3	19.0	
In percent of exports	...	...	117.4			133.1	135.4	130.8	127.2	120.5	108.8		76.1	51.9	
PV of PPG external debt	...	...	**46.4**			**46.9**	**48.6**	**48.3**	**47.2**	**44.9**	**40.6**		**28.3**	**19.0**	
In percent of exports	...	...	**117.4**			**133.1**	**135.4**	**130.8**	**127.2**	**120.5**	**108.8**		**76.1**	**51.9**	
In percent of government revenues	...	...	**107.3**			**106.0**	**109.4**	**109.1**	**106.5**	**101.5**	**91.7**		**64.0**	**43.2**	
Debt service-to-exports ratio (in percent)	**11.2**	**10.2**	**10.2**			**16.1**	**11.7**	**11.4**	**10.1**	**9.4**	**12.4**		**8.5**	**5.0**	
PPG debt service-to-exports ratio (in percent)	**11.2**	**10.2**	**10.2**			**16.1**	**11.7**	**11.4**	**10.1**	**9.4**	**12.4**		**8.5**	**5.0**	
PPG debt service-to-revenue ratio (in percent)	**11.8**	**10.1**	**9.4**			**12.9**	**9.5**	**9.5**	**8.4**	**7.9**	**10.4**		**7.1**	**4.1**	
Total gross financing need (Millions of U.S. dollars)	34.8	42.6	65.9			89.6	70.3	62.8	59.2	56.6	57.1		67.6	105.7	
Non-interest current account deficit that stabilizes debt ratio	14.7	26.9	35.4			25.3	23.1	22.0	22.7	24.2	24.4		23.3	22.7	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.6	2.9	1.4	0.9	2.8	0.5	1.9	2.7	3.0	3.0	3.0	2.4	3.0	3.0	3.0
GDP deflator in US dollar terms (change in percent)	3.1	4.2	2.3	2.5	1.2	0.8	1.0	1.5	1.5	1.5	1.5	1.3	1.5	1.5	1.5
Effective interest rate (percent) 7/	2.5	2.1	2.1	3.4	1.3	2.1	3.0	2.3	2.3	2.3	2.3	2.4	2.3	4.0	2.7
Growth of exports of G&S (US dollar terms, in percent)	11.7	2.4	-2.3	0.3	8.7	-9.6	5.0	7.1	5.0	5.1	4.6	2.9	4.3	4.4	4.4
Growth of imports of G&S (US dollar terms, in percent)	1.4	19.6	14.6	5.1	9.2	-11.6	-0.6	3.8	4.5	4.7	2.6	0.6	4.3	4.3	4.3
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Government revenues (excluding grants, in percent of GDP)	41.6	42.3	43.2			44.2	44.5	44.3	44.3	44.3	44.3		44.2	44.0	44.1
Aid flows (in Millions of US dollars) 8/	24.7	39.9	42.2			41.5	31.2	27.8	27.8	24.2	25.0		31.2	48.4	
o/w Grants	24.7	39.9	42.2			41.5	31.2	27.8	27.8	24.2	25.0		31.2	48.4	
o/w Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			13.1	10.2	8.3	7.7	6.0	5.5		5.9	6.1	6.0
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			75.0	67.0	70.7	76.0	85.0	98.1		87.2	81.1	85.2
Memorandum items:															
Nominal GDP (Millions of US dollars)	329.1	352.7	366.0			371.0	381.8	398.1	416.1	435.1	454.8		568.0	885.9	
Nominal dollar GDP growth	6.8	7.2	3.8			1.4	2.9	4.3	4.5	4.5	4.5	3.7	4.5	4.5	4.5
PV of PPG external debt (in Millions of US dollars)			169.7			173.9	185.7	192.1	196.2	195.4	184.6		160.5	168.2	
(PVt-PVt-1)/GDPt-1 (in percent)						1.1	3.2	1.7	1.0	-0.2	-2.5	0.7	-0.9	0.6	-0.3

Source: Fund staff simulations.

1/ Figures shown for a given calendar year relate to the fiscal year beginning on July 1 of that year.
2/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
3/ Only Includes public sector external debt.
4/ Derived as [r - g - r(1+g)]/(1+g+r+gr) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = growth rate of GDP deflator in U.S. dollar terms.
5/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.
6/ Assumes that PV of private sector debt is equivalent to its face value.
7/ Current-year interest payments divided by previous period debt stock.
8/ Defined as grants, concessional loans, and debt relief.

Table 5a. Dominica: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009-2029
(In percent)

	Projections							
	2009	2010	2011	2012	2013	2014	**2019**	2029
PV of debt-to GDP ratio								
Baseline	46.9	48.6	48.3	47.2	44.9	40.6	**28.3**	19.0
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009-2029 1/	46.9	45.1	44.0	43.1	41.9	39.9	**37.9**	37.6
A2. New public sector loans on less favorable terms in 2009-2029 2	46.9	50.2	50.9	50.5	48.6	44.3	**33.1**	28.8
A3. Baseline with US$60 million loan from China	46.9	52.4	55.7	58.1	55.8	51.4	**38.4**	26.9
A4. Baseline with US$60 million loan from China and growth impact	46.9	52.3	55.4	57.5	54.7	49.9	**35.6**	23.6
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	46.9	50.6	52.5	51.3	48.9	44.2	**30.8**	20.7
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	46.9	52.4	59.6	58.5	56.2	51.9	**39.4**	25.9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	46.9	48.5	48.3	47.2	45.0	40.6	**28.3**	19.0
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	46.9	54.6	61.1	59.9	57.6	53.3	**40.8**	26.7
B5. Combination of B1-B4 using one-half standard deviation shocks	46.9	55.8	67.9	66.7	64.3	59.8	**46.6**	30.4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	46.9	69.2	68.7	67.1	63.9	57.8	**40.2**	27.0
PV of debt-to-exports ratio								
Baseline	133.1	135.4	130.8	127.2	120.5	108.8	**76.1**	51.9
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009-2029 1/	133.1	125.7	119.2	116.3	112.5	107.0	**102.0**	103.0
A2. New public sector loans on less favorable terms in 2009-2029 2	133.1	139.9	137.9	136.2	130.4	118.8	**89.1**	78.7
A3. Baseline with US$60 million loan from China	133.1	146.0	151.0	156.7	149.7	137.9	**103.3**	73.5
A4. Baseline with US$60 million loan from China and growth impact	133.1	145.6	150.1	155.2	146.8	133.8	**95.8**	64.5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	133.1	135.4	130.8	127.2	120.5	108.8	**76.1**	51.9
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	133.1	167.0	216.2	211.2	201.8	186.0	**141.9**	94.8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	133.1	135.4	130.8	127.2	120.5	108.8	**76.1**	51.9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	133.1	152.1	165.5	161.7	154.7	142.8	**109.8**	73.1
B5. Combination of B1-B4 using one-half standard deviation shocks	133.1	167.3	214.7	209.9	201.3	186.8	**146.4**	97.1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	133.1	135.4	130.8	127.2	120.5	108.8	**76.1**	51.9
PV of debt-to-revenue ratio								
Baseline	106.0	109.4	109.1	106.5	101.5	91.7	**64.0**	43.2
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009-2029 1/	106.0	101.5	99.4	97.4	94.8	90.2	**85.8**	85.6
A2. New public sector loans on less favorable terms in 2009-2029 2	106.0	113.0	115.0	114.0	109.8	100.1	**74.9**	65.5
A3. Baseline with US$60 million loan from China	106.0	117.9	125.9	131.2	126.1	116.3	**86.9**	61.1
A4. Baseline with US$60 million loan from China and growth impact	106.0	117.6	125.1	130.0	123.6	112.8	**80.5**	53.6
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	106.0	113.7	118.7	116.0	110.5	99.9	**69.7**	47.0
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	106.0	117.8	134.8	132.2	127.0	117.2	**89.2**	58.9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	106.0	109.2	109.2	106.7	101.6	91.8	**64.1**	43.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	106.0	122.8	138.0	135.4	130.2	120.4	**92.3**	60.7
B5. Combination of B1-B4 using one-half standard deviation shocks	106.0	125.5	153.5	150.8	145.3	135.0	**105.6**	69.2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	106.0	155.6	155.2	151.6	144.4	130.5	**91.0**	61.4

Source: Fund staff projections and simulations.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.

2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).

4/ Includes official and private transfers and FDI.

5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.

Table 5b. Dominica: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009-2029
(In percent)

	Projections							
	2009	2010	2011	2012	2013	2014	**2019**	2029
Debt service-to-exports ratio								
Baseline	16.1	11.7	11.4	10.1	9.4	12.4	**8.5**	5.0
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009-2029 1/	16.1	11.7	11.0	9.7	9.2	12.4	**9.9**	8.4
A2. New public sector loans on less favorable terms in 2009-2029 2	16.1	11.7	11.4	10.4	9.9	12.9	**9.4**	5.9
A3. Baseline with US$60 million loan from China	16.1	11.7	11.6	10.6	10.2	13.1	**11.1**	7.7
A4. Baseline with US$60 million loan from China and growth impact	16.1	11.7	11.6	10.5	10.0	12.7	**10.4**	6.9
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	16.1	11.7	11.4	10.1	9.4	12.4	**8.5**	5.0
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	16.1	13.4	15.7	15.1	14.3	18.2	**12.9**	9.1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	16.1	11.7	11.4	10.1	9.4	12.4	**8.5**	5.0
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	16.1	11.7	12.0	11.5	10.8	13.7	**9.8**	7.1
B5. Combination of B1-B4 using one-half standard deviation shocks	16.1	12.8	14.7	14.5	13.7	17.3	**12.4**	9.4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	16.1	11.7	11.4	10.1	9.4	12.4	**8.5**	5.0
Debt service-to-revenue ratio								
Baseline	12.9	9.5	9.5	8.4	7.9	10.4	**7.1**	4.1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009-2029 1/	12.9	9.4	9.2	8.1	7.7	10.5	**8.3**	7.0
A2. New public sector loans on less favorable terms in 2009-2029 2	12.9	9.5	9.5	8.7	8.3	10.9	**7.9**	4.9
A3. Baseline with US$60 million loan from China	12.9	9.5	9.7	8.9	8.6	11.1	**9.3**	6.4
A4. Baseline with US$60 million loan from China and growth impact	12.9	9.5	9.6	8.8	8.4	10.7	**8.8**	5.7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	12.9	9.9	10.3	9.2	8.6	11.4	**7.7**	4.5
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	12.9	9.5	9.8	9.5	9.0	11.5	**8.1**	5.7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	12.9	9.5	9.5	8.4	8.0	10.4	**7.1**	4.1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	12.9	9.5	10.0	9.6	9.1	11.6	**8.2**	5.9
B5. Combination of B1-B4 using one-half standard deviation shocks	12.9	9.6	10.5	10.4	9.9	12.5	**8.9**	6.7
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	12.9	13.5	13.5	12.0	11.3	14.8	**10.1**	5.9
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	18	18	18	18	18	18	**18**	18

Source: Fund staff projections and simulations.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.

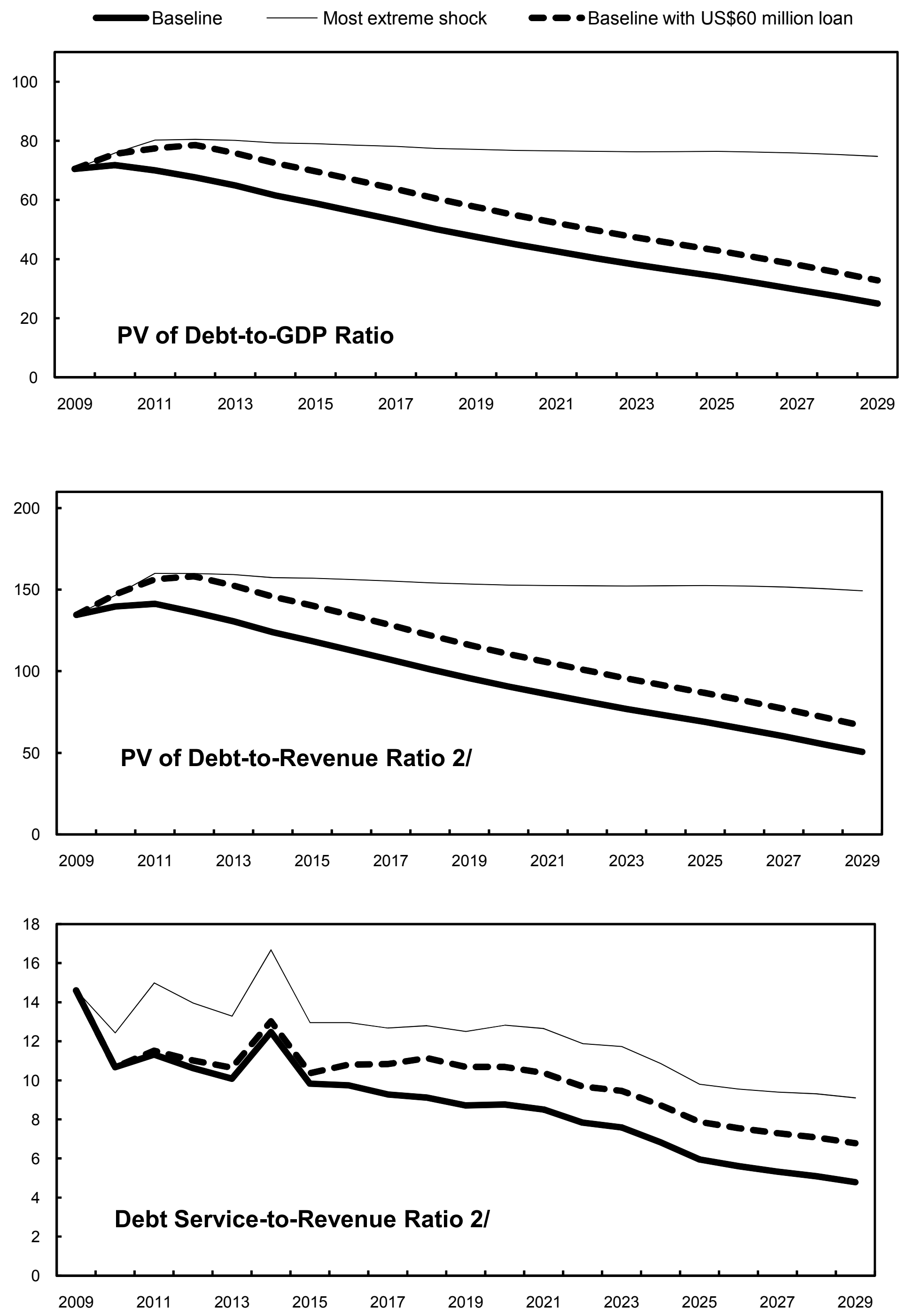
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).

4/ Includes official and private transfers and FDI.

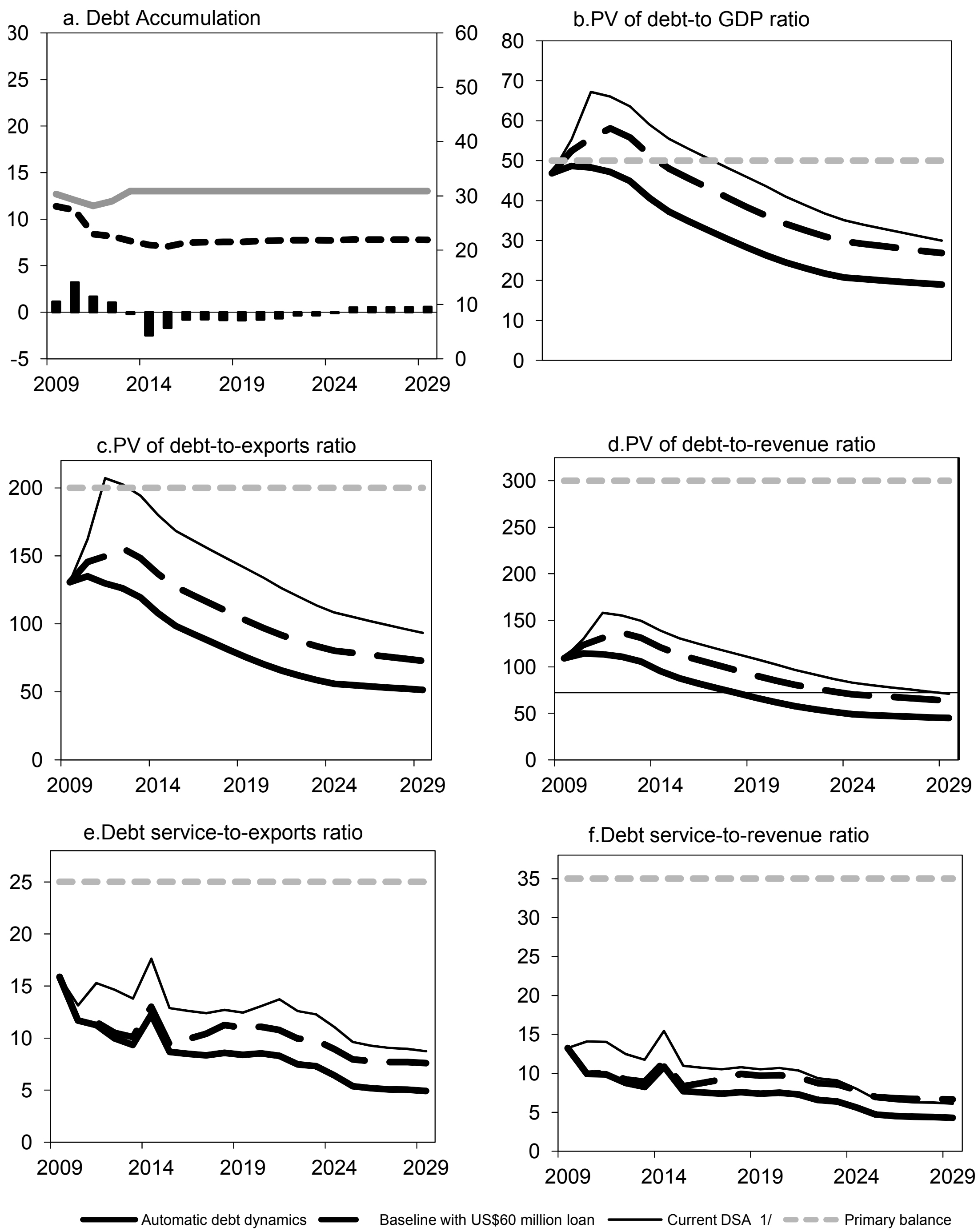
5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.

Figure 1. Dominica: Indicators of Public Debt Under Alternative Scenarios, 2009-29 1/



Sources: Country authorities; and Fund staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio in 2019.
2/ Revenues are defined inclusive of grants.

Figure 2. Dominica: Indicators of Public and Publicly Guaranteed External Debt
under Alternatives Scenarios, 2009-29 1/



Sources: Staff projections and simulations

1/ The most extreme stress test is the test that yields the highest ratio in 2019. In figure b. it corresponds to a Combination shock; in c. to a Combination shock; in d. to a Combination shock; in e. to a Exports shock and in picture f. to a One-time depreciation shock